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Kyoung-Il Park

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EXAMINER

JIANG, LISHA

ART UNIT

PAPER NUMBER

1712

MAIL DATE

DELIVERY MODE

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## **ADVISORY ACTION**

### ***Summary***

1. This advisory office action is written in response to an after final amendment filed February 27, 2012 with regards to U.S. patent application 10/591,059 filed on May 30, 2007.
2. The amendments filed on February 27, 2012 will be entered upon filing of an appeal brief as it incorporates for verbatim the language of dependent claim 3, which is now canceled, into independent and parent claim 1.
3. Amended claims 1-2, 4-5, and 8, filed on February 27, 2012, would be rejected under the same reasons previously stated under DROSKI et al., in view of WITHERS et al. and AOYAMA et al. No amendment was made to claims 9 and 11-12 and the previous rejection of claims 9 and 11-12, namely under YAN et al., in view of GOODE et al., would be maintained. Please refer the final action mailed on October 25, 2011 for further details.

### ***Response to Arguments***

4. Applicant's arguments filed February 27, 2012 have been fully considered but they are not persuasive. Specifically, the applicant argued that the combination of DROSKI et al., WITHERS et al., and AOYAMA et al. does not teach of an apparatus that is comprised of a two separate preheating devices. However, this was found to unconvincing because DROSKI et al. teaches that a heater or preheater may be used to heat a solution prior to spraying from two nozzles, wherein said solution is stored in a storage tank. AOYAMA et al. further teaches that a single nozzle may be associated

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with its own storage tank, wherein an individual storage tank allows for individual control over the to-be-sprayed species from each nozzle. One of ordinary skill in the art would have been motivated to combine the teachings and split the heated storage tank system of DROSKI et al. into two separate systems as it allows for independent control over the to-be-sprayed systems. Please note that although AOYAMA et al. does not teach that the storage tank is connected with or tied to a heater, DROSKI et al. does teach of a tank-associated heater and the benefits of having a tank-associated heater. More generally, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Thus, for the reason(s) above, the above indicated argument has been found to be unpersuasive.

5. In addition, the application argued that the combination of teachings is not the combination of YAN et al. and GOODE et al. does not teach that the catalyst solution and carrier gas may be preheated. Specifically, the application argued that GOODE et al. teaches the preferable range of a catalyst solution temperature when entering a nozzle is between 0 °C and 30 °C and thus does not teach that the catalyst solution may be preheated. This was found to be unconvincing as in the GOODE et al. teaches that the solution may be pre-heated, such as being as high as 120 °C as indicated in the applicant cited section. Thus, preheating of a solution is clearly taught by GOODE et al.

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Please note that a more preferred embodiment does not teach away from another embodiment.

6. Furthermore, the applicant argued that GOODE et al. is non-analogous prior art as it is not directed to the field of fuel cells. In response to applicant's argument that GOODE et al. is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, GOODE et al. is directed to solving a particular problem with which the applicant was concerned with, namely being the selection of operative spraying conditions or parameters of a catalyst solution from a nozzle. Thus, although GOODE et al. is not directed to spraying a catalyst solution onto a plate, GOODE et al. is still analogous prior art as it addresses the technical or operational conditions of spraying, which is problem that is of concern to the instant application. For the reasons indicated above, the final rejection is maintained. Due to the entering of the new amendment filed on February 27, 2012, amended claims 1-2, 4-5, and 8 are now rejected under the same reasoning previously discussed and/or addressed by the combination of DROSKI et al., in view of WITHERS et al. and AOYAMA et al. Since no amendment was made to claims 9 and 11-12, claims 9 and 11-12 remain rejected under YAN et al., in view of GOODE et al. Please refer the final action mailed on October 25, 2011 for further details.

### ***Conclusion***

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisha Jiang whose telephone number is 571-270-5595.

The examiner can normally be reached on Monday - Friday: 8:30 AM - 4:30 PM EST.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lisha Jiang/  
Examiner, Art Unit 1712

/Michael Cleveland/  
Supervisory Patent Examiner, Art Unit 1712